

THE FUNCTIONS OF MUTUAL GROOMING AMONG WILD CHIMPANZEES

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Grooming has been extensively studied among non-human primates. While reciprocity and biological markets have often been used to explain uni-directional grooming (when individual A grooms individual B, and B does not groom A), few studies address the function of mutual grooming (when two individuals simultaneously groom each other). This is surprising given that mutual grooming occurs in a number of primate species at varying frequencies suggesting that mutual grooming and uni-directional grooming have different functions. In this study, we used 14 years of data from the Kanyawara community in Kibale National Park, Uganda to examine patterns of mutual grooming among wild chimpanzees. We specifically tested the hypothesis that mutual grooming functions in the maintenance of social bonds. We found that adult males, who typically form stronger social bonds than females, were more likely to groom each other mutually when compared to female-female dyads. In addition, among male-male dyads, those that exhibited characteristics of strong social bonds, such as high rates of association and low rates of aggression, also engaged in mutual grooming more frequently than dyads with weak social bonds. These results suggest that mutual grooming functions to support the formation of social bonds among chimpanzees. We also found evidence that mutual grooming is a more efficient form of uni-directional grooming. This may allow chimpanzees to offset the opportunity cost of uni-directional grooming, especially when food is less available and there may not be as much time available to devote to social activities.

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